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ABSTRACT

Turnover rates for nurses are among the highest for all professional employees. This study investigated the potential predictors of registered nurses' intention to quit. Survey questionnaires were mailed to a population of 779 registered nurses from two hospitals in North Dakota. Approximately 4 weeks later, usable responses were received from 353 respondents, for an overall response rate of 45%. Stepwise regression analyses were used to examine the subjects' responses. The analyses revealed that the following variables combined to predict the nurses' intention to quit: satisfaction with promotion, satisfaction with supervision, the nurse's age, perceived performance constraints, the nurse's marital status, and her/his employment status. These results are discussed in terms of their implications for the management of nurses in hospital settings. The identification of promotional and career paths and the provision of supervisory training are suggested as areas in which hospitals should focus their attention in their attempts to manage nurse turnover. The questionnaire is appended. Contains 19 references. (Author/KM)

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PREDICTORS OF REGISTERED NURSES' INTENTION TO QUIT: IMPLICATIONS FOR THE MANAGEMENT OF HEALTH CARE HUMAN RESOURCES IN NORTH DAKOTA HOSPITALS

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Predictors of Registered Nurses' Intention to Quit
Implications for the Management of Health Care Human Resources in North Dakota Hospitals

At the national level nursing shortages are considered critical problems facing health care organizations. In 1983, the Institute of Medicine of the National Academy of Science reported that the supply and demand for nurses was in balance and would most likely remain so until the next decade (1983). Four years later in 1987, the American Hospital Association (AHA) reported registered nurse (RN) vacancy rates of 15 percent or higher (1987). For hospitals of less than 50 beds, vacancies were reported to be as high as 20 percent. Between September 1985 and December 1986, the proportion of RN vacant positions in hospitals doubled (Curran, Minnick, & Moss, 1987).

Despite the empirical evidence of critical nurse shortages, many observers of the nursing profession are confused by claims of such shortages. The reason for this confusion is the present supply of nurses. The output of nurses has doubled over the past 30 years, greatly exceeding the population growth rate (Curran, et al., 1987). Licensed registered nurses now number 2.1 million. Between 1977 and 1984, the number of employed nurses increased by 55 percent, while the general population was experiencing only an eight percent growth (Department of Health and Human Services, 1986). In addition, the reported nursing shortages exist despite the fact there has been a significant dropoff in hospital inpatient capacity nationally.

Regardless of whether or not an actual nurse shortage exists, one problem in health care administration over which there is little controversy is nursing turnover. Estimates of annual nursing turnover fluctuate around 30 percent

(Prescott & Bowen, 1987; Price & Mueller, 1981; Weisman, 1982). This turnover rate is among the highest rates found for most professional and technical occupational groups (Price & Mueller, 1981). For many hospitals that are involved in cost containment programs, nursing turnover is one major source of nonessential expense. Studies at the beginning of this decade estimated that the total recruiting and orientating cost for a single registered nurse ranged from $3,000 to $5,000 (Hinshaw, Smeltzer, & Atwood, 1987). In addition, these turnover rates may help explain the nursing shortages many hospitals are experiencing.

Although nursing turnover has been recognized as a problem for several decades, only in recent years has its management has been theoretically and empirically addressed. Prior to the early 1980s the thrust of administrative policy on RN participation in the workforce was on replacement rather than retention. The major contributing factor to this approach was a series of studies in the 1970s which suggested that the most important determinants of nurse retention were variables beyond hospital control. Sloan (1981) concluded that the major causes of nurse turnover were: nurse age; marital status; spouse's earnings; employment tenure; and type of basic nursing education.

Studies in the 1970s and 1980s of nurses' attitudes and their employment patterns have indicated that many of the determinants of nursing turnover may very well be controllable by hospital administrators. One widely accepted myth was that nurses who left nursing in large numbers were either inactive or employed in jobs outside the health care industry. However, recent statistics have presented an entirely different picture. Data from a number of studies indicate that a large number of nurses who have resigned have selected similar nursing positions, often in the same geographic area (Aiken, 1982; Weisman, 1982;

Weisman, Alexander, & Chase, 1981). According to 1986 statistics, almost 80 percent of registered nurses were employed either full-time or part-time (Department of Health and Human Services, 1986). Additionally, research on the relationship between nurse turnover and job satisfaction suggests that administrative policies may definitely effect nurse retention.

Research on nursing job satisfaction and turnover is not new. Generally, the studies have suggested that nursing turnover and its related costs could be reduced if hospitals could identify and alter those organizational conditions and employee attitudes which contribute to employee turnover. Studies of nursing turnover, however, vary substantially in the methodology, rigor, and selection of the variables to be studied. Seybolt (1986) specifically investigated the relationship between the career stages of the nurses and their turnover intentions. Weisman, et al. (1981) in their study concluded that as much as 75 percent of "contemplated turnovers" may be attributed to job rather than family reasons. Prescott and Bowen (1987) found that the following work-related factors were among the reasons most frequently mentioned by the nurses who had resigned from their job: work scheduling, head nurse supervision, lack of stimulation, nursing practice, salary, and staffing shortage. Many of these factors have been identified as contributors to nurse turnover in other studies as well (Hinshaw, et al., 1987; Seybolt, 1986).

Examination of the variables in these previous studies implies a three-category classification of the determinants of nurse turnover. These categories include variables which measure job-related satisfaction, organizational conditions, and personal/demographic characteristics. Mowday, Porter, and Steers (1982) and Weisman, et al. (1981) have proposed similar frameworks for studying employee turnover.

The Present Study

The purpose of the present study was to extend the research on the predictors of nurse turnover to nurses in North Dakota hospitals. Given the ever-increasing concern for the control of health care costs, it is important that North Dakota hospital administrators and nursing supervisors better understand the factors that contribute to nurse turnover. This is especially true considering North Dakota's rural nature. There is a geographic maldistribution of nursing professionals in the United States. It has been documented that registered nurses seem to prefer large cities and often leave smaller community hospitals in order to work in larger metropolitan hospitals (AHA, 1987). While there are no reliable statistics on the rate and the demographic characteristics of nurses who leave small community hospitals, this movement, nevertheless, tends to make the nursing shortage even more serious for states such as North Dakota. Because nursing education is funded by the states rather than the federal government, any outflow of nurses to other states is a serious financial loss of a state's investment in nursing education.

This movement of nursing professionals to larger cities also creates an outflow of a skilled professional labor force. Obviously, if hospitals and other health care institutions better understand the factors contributing to the turnover of RNs in North Dakota, they will be better prepared to alter these factors and thereby reduce nursing turnover. The ability of hospitals to retain qualified registered nurses will help the State better utilize health care human resources and reduce the loss of the State's investment in nursing education. The information provided in this study will be potentially useful to State health care officials and legislators as they plan for health care into the next decade.

To investigate the predictors of RN turnover, the present study employed the three-category framework described earlier. The effects of job satisfaction variables, organizational conditions, and personal/demographic variables were examined to determine their relative impact on nurse turnover. Because the present study was cross-sectional rather than longitudinal in nature, nurses' intentions to quit were used as a substitute for actual turnover. Several models in the research literature have argued that the best single predictor of actual turnover is the intention to quit (Mobley, Griffeth, Hand, & Meglino, 1979). Therefore, it is practical to study these intentions and their determinants to better understand the turnover process. Knowledge of these determinants can guide hospital administrators in their efforts to prevent premature and unwanted turnover.

METHOD

Sample and Procedure

The target population for the present study was all RNs employed at two of the larger hospitals in North Dakota. To allow for geographic representation, one of the hospitals is located in eastern North Dakota while the other is in the west. To ensure that all potential subjects were sampled the cooperation of the administration at each hospital was obtained. Each hospital provided mailing labels with the home addresses for all of its RNs. The surveying of the subject population involved three separate mailings. The first mailing was a postcard informing the RNs of the nature of the study and asking them to be alert for the arrival of the survey (see Appendix A). One week later the survey itself was mailed along with a cover letter explaining the study and a stamped, business-reply envelope. The letter asked the subjects to complete the survey and return it through the mail to the researchers at the Management Department of the University of North Dakota via the business-reply envelope (see Appendix B). One week later reminder postcards were sent to the entire subject population asking them to return the survey if they had not already done so (see Appendix A).

The target population included 779 RNs - 519 from the first hospital and 260 from the second. Approximately four weeks after the mailing of the survey, usable returns had been received from 353 respondents for an overall response rate of 45%. Completed surveys were received from 232 RNs from Hospital One (45%) and 121 (47%) from Hospital Two.

Subjects' responses to the survey's demographic items revealed the following characteristics. The respondents included 158 full-time workers (44.8%) and 175 part-time employees (49.6%). (Note: any discrepancies in sample

sizes are due to missing data). Straight shifts were worked by 108 respondents (30.6%), while 208 (62.6%) worked rotating shifts. One hundred sixteen subjects (32.9%) held supervisory positions and 212 (60.1%) were nonsupervisory employees. The average age and organizational tenure for the sample were 33.78 years and 6.61 years, respectively. The educational backgrounds of the subject RNs were as follows: 61 associate degrees, 110 diplomas, 150 baccalaureate degrees, and 10 graduate nursing degrees. Two hundred seventy-three respondents were married, while 60 indicated that they were either single, divorced/separated, or widowed. Finally, 126 subjects reported having pre-school children with 206 reporting no pre-school children.

A comparison of the two hospital sites on the demographic variables revealed more similarities than differences. Differences between the two hospitals did exist, however, on employment status, supervisory responsibility, and education. A larger percentage of full-time employees responded from Hospital One than from Hospital Two. Also, the percentage of respondents who had supervisory responsibilities was larger in Hospital One than in Hospital Two. Finally, the sample from Hospital One included fewer with nursing diplomas and more with baccalaureate degrees than did the sample from Hospital Two.

Survey Measures

Job satisfaction variables: Overall job satisfaction was measured with the General Satisfaction Scale from the Survey of Organizations questionnaire (Taylor & Bowers, 1972). The scale is comprised of seven Likert-type items which were designed to measure six components of job satisfaction. Responses were made on a 5-point scale, and the average of the seven responses was calculated. The reliability estimate (Cronbach's alpha) for the scale in the present study was

.80. Satisfaction with the supervisory, pay, and promotion facets of the subjects' jobs was also assessed. Supervisory satisfaction was measured by four items from the Facet- Specific Job Satisfaction Scale (Quinn & Staines, 1979). Four items developed by Lawler (1981) were used to assess pay satisfaction. Promotion satisfaction was examined by using five items taken from Price and Mueller (1981). Subjects responded to the items for each of these three measures on 7-point Likert-type scales. Mean values were calculated for each satisfaction scale. The reliability estimates for the supervisory, pay, and promotion scales were .91, .89, and .88, respectively.

Organizational conditions: Three aspects of organizational conditions were also measured to determine their impact on nursing turnover. These variables were included for two reasons. First, they have frequently been included in studies of turnover (O'Connor, et al., 1984; Prescott & Bowen, 1987; Price & Mueller, 1981; Weisman, Alexander, & Chase, 1981). Secondly, they have a direct relationship with the nursing profession's attempt to enhance the status and professionalism of the field of nursing.

The first of these, namely, role ambiguity was assessed by the 6-item scale developed by Rizzo, House, and Lirtzman (1970). Subjects responded to the items on a 7-point dimension and a mean was calculated, such that a high score indicated high ambiguity. Collectively the items define role ambiguity in terms of the predictability of the outcomes of one's behavior, and the existence of environmental guidelines to provide knowledge that one is behaving appropriately. The alpha reliability estimate for the scale in the present study was .83.

The second organizational condition variable that was measured was the perceived opportunity to participate. Eight Likert-type items were used to assess this condition (Price & Mueller, 1981). Subjects were asked to indicate

on 5-point scales how much say they had in making a number of job-related decisions. Their responses to the items were averaged to yield a scale score. The estimated reliability coefficient for the scale (alpha) was .84.

The third organizational condition variable was a measure of perceived "performance constraints" which was developed specifically for the nursing profession. A random sample of 10 nurses was asked to describe one or more specific instances on the job in which a particular situational condition or event negatively affected or constrained their performance. These critical incidents were content analyzed to discover whether any common themes emerged. A 12-item scale was constructed to tap all the situational constraints. This procedure is based on the method used for constructing situational-constraints measures developed by O'Connor, et al. (1984). In order to compute the overall performance constraints score, responses on the 12 items were averaged together so that a high score indicated a high level of performance constraints. The coefficient alpha for this scale was .83.

Intention to quit: RN turnover was assessed with a 6-item scale measuring intention to quit (Price & Mueller, 1981). Questions asked respondents to indicate how often they thought about quitting, whether they will look for a new job, whether they would change jobs if another one was offered, etc. The subjects responded to these questions on 7-point Likert-type scales. Average item responses were calculated. The coefficient alpha for the scale was .72.

Perceived alternative employment: The subjects' perceived job mobility was also assessed. Three items (Price & Mueller, 1981) were used to determine their perceptions of alternative nursing employment. They were asked how easy it would be to find a nursing job with another employer, how easy it would be to find another nursing job as good as their present job, and how many nursing

jobs were available. The responses to these questions were averaged to determine scale scores. The reliability estimate (alpha) of the scale was .83.

RESULTS

Scale means and standard deviations for all computed variables are presented in Table 1. The intercorrelations among all variables including the demographic variables are shown in Table 2. Examination of the zero-order correlations in Table 2 revealed statistically significant relationships among the following variables. The RNs' age and their length of employment were negatively related to their intention to quit. Also, RNs who were single reported a higher likelihood of quitting their jobs, while RNs with pre-school children reported less intention to quit. Perceived ease of finding another comparable job was positively related to intention to quit. This finding indicated that RNs were more likely to think of quitting their jobs when they perceived that there were other comparable jobs in the health care labor market. The RNs' education was not significantly correlated with their intention to quit. Perceived ease of finding another comparable job was negatively related to the RNs' age and length of employment. RNs who were single perceived less difficulty in finding another comparable job. Again there was no significant correlation between RNs' education and perceived ease of finding another job. Among the four job satisfaction measures, satisfaction with pay was more strongly related to perceived ease of finding another comparable job. As expected, lower pay satisfaction was related to greater perceived ease of finding another comparable job.

Intention-to-quit was negatively related to all four measures of job satisfaction and was positively related to perceived role ambiguity and perceived

performance constraints. Perceived opportunity for participation was negatively related to intention to quit. While zero-order correlations show the degree of the relationship among the variables, they do not provide information about the relative contribution of each of the variables to the prediction of intention to quit.

TABLE 1

Means and Standard Deviations of All Variables

	M	S.D.
Overall job satisfaction*	3.31	.74
Role ambiguity	2.93	.98
Satisfaction with supervisor	4.34	1.56
Satisfaction with pay	3.49	1.49
Satisfaction with promotion	3.59	1.40
Performance constraints	3.25	.86
Participation opportunity*	3.04	.78
Intention to quit	4.24	1.16
Perceived alternative employment*	3.58	1.05

*These variables are measured by a 5-point scale, all other variables are measured by a 7-point scale.

TABLE 2

Complete Correlation Matrix of All Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Overall job satisfaction																	
2	Role Ambiguity	-.47***																
3	Satisfaction with supervisor	.51***	-.40***															
4	Satisfaction with pay	.55***	-.32***	.26***														
5	Satisfaction with promotion	.59***	-.39***	.31***	.45***													
6	Performance constraints	-.48***	.59***	-.37***	-.42***	-.36***												
7	Participation	.46***	-.45***	.41***	.27***	.37***	-.43***											
8	Intention to quit	-.63***	.37***	-.41***	-.38***	-.51***	.41***	-.35***										
9	Perceived alternative employment	-.19***	.03	-.09	-.29***	-.11*	.07	-.08	.20***									
10	Employment status[1]	-.04	-.02	-.07	.04	-.01	.02	.01	.08	-.07								
11	Shift[2]	.08	-.01	.02	.19***	.06	-.04	.18***	-.10	-.07	-.03							
12	Organizational Tenure	.25***	-.19***	.16*	.29***	.23	-.21***	.19***	-.36***	-.30***	.10*	.13**						
13	Supervisory Status[3]	-.20***	.12*	-.09	-.11*	-.11*	.09	-.20***	.09	.05	.17***	-.06	-.13**					
14	Age	.08	-.13*	.13*	.21**	.18***	-.07	.08	-.30***	-.20***	.08	.15	.57***	-.06				
15	Education[4]	.01	-.11*	.02	-.03	.04	-.02	-.01	.01	.08	-.03	.07	-.05	-.15**	-.14**			
16	Marital status[5]	-.11*	.08	-.01	-.14**	-.08	.10*	-.16**	.19**	.17***	-.27***	-.03	-.18***	-.16**	-.08	.09		
17	Pre-school Children[6]	.06	-.04	.11*	-.03	.11*	.04	-.02	-.14*	.01	-.26***	-.11*	.13*	-.14**	.29***	-.03	.32***	

Table 2 continued on next page

TABLE 2 (cont.)

Complete Correlation Matrix of All Variables

Sample sizes range from 322 to 350 due to missing data.

*p<.05
**p<.01
***p<.001

[1]: Full-time = 1; part-time = 2

[2]: Rotating shift = 1; straight shift = 2

[3]: Supervisors = 1; Non-supervisors = 2

[4]: Associate degree = 1; Diploma = 2; Baccalaureate = 3; Graduate degree in Nursing = 4

[5]: Married = 1; Single/Divorced = 2

[6]: With pre-school children = 1; without pre-school children = 2

Stepwise regression analysis was used to statistically identify the best set of predictors of intention to quit. The following predictor variables were included in the analysis: overall job satisfaction, role ambiguity, perceived participation, performance constraints, full-time/part-time position, shift, age, supervisory status, marital status, and preschool children. Table 3 provides a summary of the final set of variables that made a statistically significant contribution to the prediction of intention to quit. As shown in Table 3, five predictor variables together accounted for 49 percent of the variance in intention to quit. These variables in order of importance were overall job satisfaction, age, marital status, performance constraints, and full-time/part-time position. Overall job satisfaction accounted for the largest percentage of variance in intention to quit (R^2=.38). Age, marital status, performance constraints and full-time/part-time position together accounted for an additional 11 percent of the variance. Since the three facets of job satisfaction (pay, promotion, and supervision) were highly correlated with overall job satisfaction, they were not included in the analysis with the overall job satisfaction. Instead the 3 facets of job satisfaction were used in a separate regression analysis which did not include overall job satisfaction. Table 4 shows the summary of this regression. The results of this regression essentially are quite comparable to the previous regression in Table 3. Satisfaction with promotion and supervision entered the regression equation and accounted for 34 percent of the variance in intention to quit. Satisfaction with pay, however, did not make a significant contribution to the prediction of intention to quit. The other significant predictor variables

TABLE 3

Summary of Stepwise Regression Predicting
RNs' Intention to Quit Using Overall Job Satisfaction

Independent Variables	Beta	R^2	dF	F-step
Overall job satisfaction	-.51	.38	1,269	166.22***
Age	-.25	.45	1,268	32.75***
Marital Status[1]	.16	.46	1,267	9.32**
Performance constraints	.13	.48	1,266	7.05**
Employment Status[2]	.11	.49	1,265	5.75*

*p<.05
**p<.01
***p<.001

[1] Married = 1; Single = 2.
[2] Full-Time = 1; Part-time = 2.

TABLE 4

Summary of Stepwise Regression Predicting
RNs' Intention to Quit Using 3 Work-Facet Satisfactions

Independent Variables	Beta	R^2	dF	F-step
Satisfaction with promotion	-.34	.27	1,268	100.96***
Satisfaction with supervision	-.21	.34	1,267	27.29***
Age	-.20	.38	1,266	16.68***
Performance Constraints	.17	.40	1,265	13.07**
Marital Status[1]	.18	.42	1,264	9.98**
Employment Status[2]	.11	.43	1,263	5.65*

*p<.05
**p<.01
***p<.001

[1] Married = 1; Single = 2.
[2] Full-Time = 1; Part-time = 2.

TABLE 5

Summary of Stepwise Regression Predicting
RNs' Overall Job Satisfaction

Independent Variables	Beta	R^2	dF	F-step
Satisfaction with promotion	.27	.32	1,274	131.50**
Satisfaction with supervision	.28	.46	1,273	72.93**
Satisfaction with pay	.26	.53	1,272	40.77**
Participation	.14	.54	1,271	11.91**
Role Ambiguity	-.11	.55	1,270	5.64*

* $p<.01$
** $p<.001$

in the final step were identical to the predictors in Table 3. All 6 predictor variables together accounted for 43 percent of the variance in intention to quit.

In order to determine the relative contribution of the three facets of job satisfaction to overall job satisfaction, the job facet satisfaction measures and the organizational conditions variables were used as predictors of overall job satisfaction. Table 5 shows a summary of the stepwise regression. Satisfaction with promotional opportunities was the strongest predictor of the RNs' overall job satisfaction. Satisfaction with supervision and pay were the second and the third most significant predictors of overall job satisfaction. In addition to the satisfaction variables, perceived opportunity for participation and role ambiguity were other significant predictors of overall job satisfaction. RNs who perceived more opportunity for participation tended to be more satisfied with their jobs. Role ambiguity had a negative beta sign indicating that the RNs who perceived more role ambiguity tended to be less satisfied with their jobs than were the RNs who perceived less role ambiguity.

Since perceived ease of finding another comparable job was significantly correlated with the RNs' intention to quit ($r=.20$, $p<.001$), it was informative to find which variables could predict the RNs' perceived ease of finding another job. To determine this the following demographic variables were used as predictors in a stepwise regression: full-time/part-time position, shift, age, education, length of employment, marital status and having preschool children. Table 6 presents a summary of this regression analysis. Only two variables were significant predictors of perceived ease of finding another comparable job. Length of employment with the hospital and marital status together explained 8 percent of the variance in the dependent variable. The signs of the beta weights indicated that RNs with longer employment perceived more difficulty in finding

TABLE 6

Summary of Stepwise Regression Predicting
RNs' Perceived Alternative Employment

Independent Variables	Beta	R^2	dF	F-step
Organizational Tenure	-.22	.06	1,296	19.93***
Marital Status[1]	.13	.08	1,295	5.23*

[1] Married = 1; Single = 2.

another comparable job. As expected RNs who are not married perceived more ease in finding another comparable job. This finding suggests that RNs who are married and have a longer employment tenure tend to perceive fewer alternative employment opportunities, and therefore, may be less likely to leave their current employer.

DISCUSSION

At the national level the nursing shortage is one of the most critical human resource problems facing health care institutions today. Because of the nursing shortage, it has become important for hospitals to better utilize their existing nursing staffs. From the nurses' perspective a greater number of available positions usually translates into a better job market for health care professionals. Given these market conditions, nurses are more likely to change jobs in search of better employment and more desirable working conditions. While this situation may benefit individual nurses, the increased mobility can result in higher turnover rates and the loss of a hospital's investment in the recruitment and orientation of nurses. In the long run, high turnover rates can significantly increase total labor costs for hospitals and, thereby, reduce the organization's ability to financially survive in an increasingly competitive health care market.

National statistics indicate that the turnover rate for nurses is among the highest for all professional employees (Price & Mueller, 1981). During the 1980s several large-scale studies were conducted to enhance the understanding of the determinants of nurse turnover. Most of this research was conducted in large metropolitan areas where alternative employment opportunities for nurses were available. Relatively little is known about the generalizability of these

findings to nurses working for hospitals in smaller cities in sparsely populated states such as North Dakota. Therefore, the purpose of the present study was to investigate the determinants of nurses' intentions to quit in North Dakota hospitals.

Before discussing the results of the present study, it should be noted that the sample in the present study differs from those utilized in previous studies. Earlier studies generally sampled all types of nurses including nurse's aides, licensed practical nurses and registered nurses. The present study, however, was intentionally restricted to registered nurses. Because of the increased demands being placed on nurses today and the corresponding sophistication of the training which is needed, many hospitals are requiring that an increasing proportion of their nursing staffs possess the RN designation. Therefore, it was deemed appropriate to limit the present study to registered nurses.

Predictors of Intention to Quit

The earlier research on nurse turnover focused on the relationships among personal/demographic variables and turnover. Many of these studies found significant relationships between various individual personal/demographic variables and actual or intended turnover. Similar findings were obtained in the present study. The nurses' age, organizational tenure, and marital status were all significantly related to turnover intention. Younger nurses who had fewer years of organizational tenure and were single were more likely to think of quitting. These findings are consistent with previous studies of nursing turnover (Price & Mueller, 1981).

However, as mentioned previously, it is not enough to focus solely on personal/demographic variables when studying turnover. Although these variables

are related to turnover, this knowledge has little practical value to hospital administrators who would like to take specific steps to reduce turnover. Personal/demographic variables are factors over which organizations have little or no control. Therefore, in the present study the employees' attitudes toward and perceptions of their job situations were used in addition to the personal/demographic variables as predictors of turnover intention.

The first regression analysis predicting the nurses' intention to quit revealed that overall job satisfaction is by far the most important predictor. Thirty-eight percent of the variance in the nurses' responses to intention to quit questions is accounted for by their overall job satisfaction scores. This suggests, not surprisingly, that the nurses' attitudes toward their jobs are very important in determining whether they think about quitting. To provide more specific information concerning the determinants of the nurses' intention to quit, the second regression analysis substituted the three facets of job satisfaction for the measure of overall satisfaction. The results depicted in Table 4, therefore, are most informative in identifying the determinants of intention to quit.

When the three facets of job satisfaction are used as predictors, satisfaction with promotion was the most significant predictor of intention to quit accounting for 27 percent of the variance. This finding is consistent with the results of a study reported by Hinshaw, et al. (1987) who identified the opportunity for career mobility within the organization as an important strategy for reducing turnover among nurses. This finding has important implications for the promotional policies and career development programs in health care institutions. In traditional hospital structures, promotion opportunities (given the large number of nurses employed) are frequently quite limited. It is not

unusual to hear nurses complain about the "dead-end" nature of their jobs. The present findings clearly suggest that by redesigning jobs and specifying promotional and career paths, hospitals can significantly improve the job satisfaction and ultimately the turnover rate of their nursing staffs.

Satisfaction with supervision was the second most significant predictor of intention to quit and accounted for an additional seven percent of the variance. This finding is consistent with the results reported by Prescott and Bowen (1987). They found that nurses who worked well with their immediate supervisors were more likely to remain in their jobs. Findings such as these highlight the importance of quality supervision in the effective management of human resources. Because many nurses who may reach supervisory positions are likely to lack formal training in effective supervision, hospitals should ensure that such training is provided on a continual basis.

Three personal/demographic variables also proved to be significant predictors of the nurses' intentions to quit, although together they accounted for only an additional seven percent of the variance. Similar to previous studies, the nurses' age and marital status contributed to the prediction of the intent to quit. Younger, single workers were more likely to report intentions to quit. The third personal/demographic variable that significantly added to the prediction was the nurse's employment status. Part-time workers expressed stronger intentions to quit. Most of the earlier research on nursing turnover has not taken into account this variable. Given the large number of nurses who work part-time in hospitals, this appears to have been a serious oversight. Part-time workers, because of the fewer hours they work each week, may feel "less committed" to the hospital and, therefore, be more likely to report thoughts of quitting.

A somewhat surprising finding was the fact that neither the nurses' education nor the shift that they worked was a significant predictor of their intentions to quit. Sloan (1981) identified nurses' basic education as a primary determinant of nurse turnover. In the future, however, the impact of education as a predictor of North Dakota nurses' intentions to quit may change. With the most recent changes, the State's regulations concerning the certification of nurses now require that nurses possess the baccalaureate degree to obtain the RN certification. This will undoubtedly increase the importance of a nurse's education in hospital hiring decisions. Work shift has also been identified as a factor in determining a nurse's decision to quit (Prescott & Bowen, 1987). In the present study, RNs who work rotating shifts did not report any stronger intentions to quit than the RNs who work straight shifts. This finding is contradictory to that reported by Prescott and Bowen (1987) which indicated that nurses working rotating shifts were less satisfied with their jobs and were more likely to think of quitting.

Finally, the performance-constraints measure also added significantly to the prediction of the nurses' intentions to quit. Nurses perceiving greater constraints to their performance were more likely to reveal thoughts of quitting. This finding is similar to that found by O'Connor, et al. (1984) who reported that perceived performance constraints were significantly related to actual turnover among store managers. The nature of the items used to measure constraints to performance reflect organizational conditions which limit nurses' ability to practice their profession. Given the desire of the nursing profession to increase its stature in the health care industry, it is understandable why conditions which limit its effectiveness would be related to nurses' intentions to quit. Hospitals should take care in creating work environments which do not

stifle the attempts of nurses to develop as professionals. The present findings also indicate that hospital management can significantly reduce nurses' intentions to quit by identifying and removing the performance constraints in the work environment.

Predictors of Overall Satisfaction and Perceived Job Alternatives

In addition to examining the determinants of the nurses' intentions to quit, it was felt that it would be informative to investigate the predictors of overall job satisfaction and perceived alternative employment. Both of these variables have potentially strong impacts on intention to quit. The three facets of job satisfaction were the strongest predictors of overall satisfaction. Similar to the previously discussed results of the regression equation predicting intention to quit, promotion and supervision satisfaction also were the best predictors of overall job satisfaction. It is interesting to note that pay satisfaction made a relatively small contribution to the prediction of overall job satisfaction. These findings suggest that hospitals should direct their resources to career development programs and supervisory training in their attempts to foster better job attitudes in their nursing staffs. Although nurses' pay cannot be ignored, it may have a stronger impact on a nurse's decision to initially accept a position than it does in her/his decision to subsequently leave the organization.

Only two of the personal/demographic variables proved to be significant predictors of the nurses' perceived alternative employment. Single nurses with less organizational tenure perceived greater employment opportunities than their married, more senior counterparts. This finding is not surprising. Because of added family commitments, married nurses would most likely perceive fewer

opportunities to change jobs, particularly changes which would require a geographic relocation. Additionally, nurses with longer organizational tenure may also have greater commitments to their present organizations. In addition to the loyalty which may develop between an individual and the organization, certain benefits which an employee may receive from the organization may operate to bind the employee to the organization. From the viewpoint of the two hospitals in the present study, the findings on the predictors of perceived alternative employment should be encouraging given the characteristics of the present sample of respondents. Eighty percent of all the respondents were married. At the same time the average organizational tenure was 6.61 years. These figures would suggest that a large portion of the present sample perceives few employment alternatives and would be less likely to have thoughts of quitting.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of the present study was to identify the predictors of North Dakota registered nurses' intentions to quit. Consistent with recent research on nursing turnover, attitudinal variables were the most significant predictors of the nurses' intentions to quit. Specifically, promotion and supervision satisfaction were strong predictors. It is suggested that hospital managements could potentially control unwanted nurse turnover by focusing resources on career development programs for nurses and supervisory training for nurses in supervisory positions.

Although having less of an impact on intentions to quit, several personal/demographic variables also were significant predictors. The nurses' age, marital status, and employment status all contributed significantly to the

prediction of the nurses' intentions to quit. It was noted, however, that these variables are generally beyond the control of hospital management.

Several surprising findings were that the nurses' educational backgrounds and their pay satisfaction were not significant predictors of intention to quit. Previous studies had found that nurses with higher levels of formal education were more likely to have thoughts of quitting and to actually quit. Recent changes in the state's certification requirements for registered nurses may have an effect on the impact of education on nursing turnover. Although pay satisfaction was not a significant predictor of quitting intentions, it should not be dismissed as inconsequential in the employment of nurses. Research should be conducted to determine the effect of pay levels on nurses' decisions to accept positions.

Finally, additional research should be conducted to address several limitations of the present study. First, the present research should be extended to study the predictors of actual turnover rather than intentions to quit. Intentions to quit are strong indicators of actual turnover behavior, however, it would be informative to determine whether the same variables would be significant predictors of actual turnover in a similar sample of nurses. Secondly, the sample in the present study was comprised of registered nurses in two of the larger hospitals in the state. It would be important to identify the predictors of nursing turnover in the many smaller, rural hospitals scattered throughout the state.

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APPENDIX A

Dear Health Care Professional:

As a health care professional we would like to ask for your help in a statewide study of turnover among registered nurses. The purpose of this study is to understand the major problems and causes of turnover among RNs.

In a few days you will receive our questionnaire, it will take about 15 minutes of your time, and your responses will be of great importance to the success of our survey.

We would greatly appreciate your cooperation, your help will make an important contribution to the understanding of the working conditions influencing RNs turnover.

Sincerely,

Elvira Szigeti, Ph.D., RN
College of Nursing
University of North Dakota

Abdullah Pooyan, Ph.D
Dept. of Management
University of North Dakota

Dear Health Care Professional:

Recently, we wrote you asking for your participation in an important study.

If you have already returned our questionnaire, please consider this card a "Thank you" for your valuable help.

If you have not had a chance to do so as yet, may we ask you to return the completed questionnaire as soon as possible. Your participation is vital to the completion of our study. Thank you.

Sincerely,

Elvira Szigeti, Ph.D., RN
College of Nursing
University of North Dakota

Abdullah Pooyan, Ph.D.
Dept. of Management
University of North Dakota

APPENDIX B

THE UNIVERSITY OF NORTH DAKOTA

MANAGEMENT
Box B, University Station
Grand Forks, North Dakota 58202
(701) 777-3631

Dear Registered Nurse:

The nursing staff shortage at the national level is one of the most critical human resource problems facing health care today. Additionally, there is a geographic maldistribution of nurses in the United States - nurses seem to prefer the large cities and often leave smaller hospitals to work in a larger metropolitan hospital. This makes the nursing shortage even more serious for hospitals in a state like North Dakota.

If hospital nurse administrators better understand factors contributing to the turnover of nurses in North Dakota, they would be in a better position to change those factors. Therefore, the purpose of this letter is to invite you to participate in research designed to identify the factors significant to registered nurse turnover in North Dakota.

Enclosed you will find a questionnaire that will take 10-15 minutes of your time to complete. You are asked to rate a variety of questions on a scale of 1-5 or 1-7. You will be asked questions about work status, length of time at the hospital, schooling, etc. All information from you will remain anonymous since you do not sign your name. The data will be reported in a coded format.

Participation in this study is completely voluntary. Completion of the questionnaire indicates your agreement to participate.

Thank you for your time and assistance.

Very truly yours,

Abdullah Pooyan, Ph.D.
Associate Professor of Management

Elvira Szigeti, Ph.D., R.N.
Associate Professor of Nursing

UND is an equal opportunity institution

The following items are questions concerning your satisfaction with your job and the hospital. Please indicate your response by circling the number which best represents your feelings. Use the following scale.

1	2	3	4	5
Dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Fairly satisfied	Very satisfied

1. All in all, how satisfied are you with the persons in your work group? 1 2 3 4 5

2. All in all, how satisfied are you with your supervisor? 1 2 3 4 5

3. All in all, how satisfied are you with your job?. . . 1 2 3 4 5

4. All in all, how satisfied are you with this organization,compared to most others? 1 2 3 4 5

5. Considering your skills and the effort you put into your work,how satisfied are you with your pay? 1 2 3 4 5

6. How satisfied do you feel with progress you have made in this organization, up to now? 1 2 3 4 5

7. How satisfied do you feel with your chances for getting ahead in this organization in the future? 1 2 3 4 5

The following section deals with your opinion regarding the various aspects of your job. Specifically, these questions are designed to assess your opinion regarding workload, promotional opportunity, supervision, and pay in your job. Please indicate your responses by using the following scale.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Agree	Strongly agree

8. I feel certain about how much authority I have 1 2 3 4 5 6 7

9. Clear, planned goals and objectives exist for my job 1 2 3 4 5 6 7

10. I know that I have divided my time properly 1 2 3 4 5 6 7

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neither disagree nor agree	5 Slightly agree	6 Agree	7 Strongly agree

11. I know what my responsibilities are	1	2	3	4	5	6	7
12. I know exactly what is expected of me	1	2	3	4	5	6	7
13. Explanation is clear of what has to be done .	1	2	3	4	5	6	7
14. I am given enough time to do what is expected of me	1	2	3	4	5	6	7
15. It often seems like I have too much to do . .	1	2	3	4	5	6	7
16. The performance standards on my job are too high	1	2	3	4	5	6	7
17. There is little chance to get ahead	1	2	3	4	5	6	7
18. Promotions are regular	1	2	3	4	5	6	7
19. There is an opportunity for advancement . . .	1	2	3	4	5	6	7
20. I am in a dead-end job	1	2	3	4	5	6	7
21. Promotions are very rare	1	2	3	4	5	6	7
22. If another organization offered me the same sort of job I have now and I was able to keep all of the benefits I now have, I would accept the offer	1	2	3	4	5	6	7
23. I feel that my job is no more interesting than others I could get	1	2	3	4	5	6	7
24. I plan to continue to work here until I retire	1	2	3	4	5	6	7
25. If I had a chance, I would change to some other organization	1	2	3	4	5	6	7
26. I often think about quitting	1	2	3	4	5	6	7
27. I will probably look for a new job in the next year	1	2	3	4	5	6	7
28. My supervisor is very concerned about the welfare of those under him or her	1	2	3	4	5	6	7
29. My supervisor is successful in getting people to work together	1	2	3	4	5	6	7
30. My supervisor is helpful to me in getting my job done	1	2	3	4	5	6	7

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neither disagree nor agree	5 Slightly agree	6 Agree	7 Strongly agree

31. My supervisor is fair to his/her subordinates	1	2	3	4	5	6	7
32. My pay is fair considering what other people in this hospital are paid	1	2	3	4	5	6	7
33. This hospital pays a fair wage	1	2	3	4	5	6	7
34. I am very content with the way management handles pay	1	2	3	4	5	6	7
35. Considering my skills and the effort I put into my work, I am very satisfied with my pay . . .	1	2	3	4	5	6	7
36. I have enough information to get the job done	1	2	3	4	5	6	7
37. I receive enough help and equipment to get the job done	1	2	3	4	5	6	7
38. I have enough authority to do my job	1	2	3	4	5	6	7
39. The amount of paper work I am required to complete often interferes with my getting my job done	1	2	3	4	5	6	7

The following is a list of decisions which are made on the job. For each of the following decisions,please indicate how much say you actually have in making these decisions. Please indicate your responses by using the following scale:

1 No Say At All	2 Some Say	3 Moderate Say	4 A Good Deal of Say	5 A Great Deal of Say

40. How you do your job	1	2	3	4	5	
41. Sequence of your job activities	1	2	3	4	5	
42. Speed at which you work	1	2	3	4	5	
43. Changing how you do your job	1	2	3	4	5	
44. How much you work	1	2	3	4	5	
45. When you work	1	2	3	4	5	
46. How work will be divided among people	1	2	3	4	5	
47. What you do from day to day	1	2	3	4	5	

Listed below are a number of items which may or may not describe your present job situation. We are interested in the extent to which each statement describes your job situation. Using the scale below, rate how accurately each statement describes your job situation. Please be sure to respond to all of the items.

1	2	3	4	5	6	7
Never true	Almost never true	Occasionally true	Some times true	Often true	Quite often true	Always true

48. Too much paper work keeps me from spending time with patients.	1	2	3	4	5	6	7
49. There is a shortage of nursing staff in my department.	1	2	3	4	5	6	7
50. There is a shortage of support staff in my department.	1	2	3	4	5	6	7
51. I am not given sufficient instructions on what needs to be done.	1	2	3	4	5	6	7
52. I am expected to perform medical procedures that I have little training or experience.	1	2	3	4	5	6	7
53. Medical equipment I have to use does not function adequately.	1	2	3	4	5	6	7
54. Medical equipment I have to use is not serviced adequately.	1	2	3	4	5	6	7
55. Lab delays keep me from completing my job on time.	1	2	3	4	5	6	7
56. Too many patients are assigned to me. .	1	2	3	4	5	6	7
57. I do not receive the service or help from other departments when I need it. .	1	2	3	4	5	6	7
58. I do not receive the patient-care material/equipment from other departments on a timely basis.	1	2	3	4	5	6	7
59. I am given extremely difficult assignments.	1	2	3	4	5	6	7

60. How easy would it be for you to find a nursing job with another employer? (Please check one)

_____ very easy
_____ quite easy
_____ fairly easy
_____ not quite so easy
_____ not easy at all

61. How easy would it be for you to find a nursing job as good as the one you have now with another employer?

_____ very easy
_____ quite easy
_____ fairly easy
_____ not quite so easy
_____ not easy at all

62. How would you describe the number of available nursing jobs with all types of employers, for a nurse with your qualifications?

_____ a great many
_____ quite a few
_____ a moderate number
_____ few
_____ very few

1. Are you working full-time or part-time?

   Full-time _____ Part-time _____

2. If you work part-time, why?

   Only position available _____ By choice _____

   Full-time job elsewhere _____ Other _____

3. Do you work on a rotating shift or straight shift?

   Rotating shift _____ Straight shift _____

4. If you work on straight shift,on which shift do you work?

   Day shift _____ Evening shift _____ Night shift _____

5. How long have you worked in the present hospital?

   Please indicate number of years _____

6. On which nursing unit do you work currently?_____

7. Do you have supervisory responsibilities?

   Yes _____ No _____

8. Age _____ years

9. How much professional schooling in nursing have you had?

   Associate degree _____ Baccalaureate _____

   Diploma _____ Graduate degree in Nursing _____

   Other (please specify) _____

10. What is your present marital status?

    Married _____ Single _____

    Widowed _____ Divorced/Separated _____

11. Do you have any pre-school children?

    Yes _____ No _____

Thank you for your cooperation.